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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/808,853	03/15/2001	Edward R. Wittke		5240

7590 10/22/2004  
Joseph B. Taphorn  
8 Scenic Drive  
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EXAMINER

JAMAL, ALEXANDER

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 10/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/808,853	Applicant(s) WITTKE ET AL.	
	Examiner Alexander Jamal	Art Unit 2643	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 August 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

1. Based upon the submitted amendments received 8-6-2004, examiner notes that the amended set of claims has been entered.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1,2,4,7,9,10,12,15,16,18** rejected under 35 U.S.C. 103(a) as being unpatentable over Berger et al. (5526421), and further in view of Minami et al. (5555310).

As per **claim 1**, Berger discloses a device for a telephone (Fig. 1) comprising an electrical voice transmission system and an electrical transmission line (elements 13,21,23 in Fig. 2). The device further comprises microphone 13 (Fig. 1) to pickup voice and deliver it to a transmission line. The device further comprises remote transmission block 22 (Fig. 2, Col 2 lines 47-55). The device further comprises speakers 14 near microphone 13 for providing a voice cancellation sound (Fig. 1, Col 2 lines 47-55), and signal processor 20 (Fig. 2) that receives an input from the transmission line (from

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telephone mouthpiece 13). It provides output to speakers 14 (Fig. 2) to generate a voice cancellation sound (Col 2 line 63 to Col 3 line 7). However, Berger does not disclose that the processor concurrently outputs a signal to a modulator to subtract the electrical voice cancellation sound that is picked up by the microphone.

Minami teaches a stereo echo cancellation system in which the sound output by each speaker is also sent to modulator 110 in order to subtract any echos picked up by microphone 101 (Fig. 13, Col 18 line 49 to Col 19 line 15). Berger's system is a stereo system with one speaker outputting a far-end voice and the other speaker outputting a near end voice canceling sound. It would have been obvious to one of ordinary skill in the art at the time of this application to subtract the echo of the cancellation signal (BERGER: Fig. 2 signal 24) (as well as the echo of the far end voice signal) from the microphone input for the purpose of reducing the amount of echo on the transmitted signal (MINAMI: Col 3 lines 57-63).

As per **claim 9**, claim rejected for the same reasons as rejection of claim 1.

As per **claim 18**, claim rejected for the same reasons as rejection of claim 1. The device disclosed in the claim 1 rejection will perform the method of claim 18.

As per **claims 2,10**, Berger's device comprises a set of speakers 14 (Fig. 1, Col 2 lines 47-55) to provide voice cancellation sounds.

As per **claims 4,12**, Berger's device comprises far field sensor 18 (Fig. 1, Col 2 lines 47-55) that is more remote from microphone 13 than speakers 14 as seen in Figure 1.

As per **claims 15,16**, Berger discloses an additional speaker 32 (Fig. 4 Col 3 lines 8-16) that is near microphone 33, and is for delivering voice (as it was spoken by the caller) into the microphone 33 (as is done in normal telephone operation). Examiner takes official notice that it is well known in the art that telephone earpieces deliver voice (spoken by the caller) to the caller (commonly known as sidetone) for the purpose of allowing the caller to better hear his voice while speaking on the phone.

4. **Claims 3,5-8,11,13,14,17,19,20** rejected under 35 U.S.C. 103(a) as being unpatentable over Berger et al. (5526421) and Minami et al. (5555310) as applied to claims 1,2,4,5,9,10, and further in view of Ponsgen (4006308).

As per **claims 3,5-8,11,13,14**, Berger and Minami disclose applicant's claims 1,2,4,5,9,10, but do not specify arranging the voice cancellation speakers and far-field sensors (microphones) respectively each in a spherical pattern about the handset microphone.

Ponsgen teaches that a spherically shaped speaker arrangement will offer a more natural reproduction of the original sound signal (Col 2 lines 25-46). A 'spherically-shaped' speaker arrangement is shown in Ponsgen Fig. 8. Two hemisphere's could be combined together to for a spherical shape (Col 5 lines 25-35). The use of a canceling

speaker and noise sensor is already disclosed in Berger. It would have been obvious to one of ordinary skill in the art at the time of this application to implement an array of voice cancellation speakers in a spherical pattern around their source (the handset microphone) for the purpose of producing a more natural reproduction of the original sound. In addition, it would have been obvious to one of ordinary skill in the art at the time of this application to implement an array of sensors in a similar arrangement (in a spherical pattern) as the voice cancellation speakers for the purpose of more accurately detecting the sound being produced by the speakers that are already in a spherical arrangement.

As per **claim 19**, claim rejected for the same reasons as rejection of claims 3,6,8.

The device discloses in the claim 3 rejection will perform the method of claim 19.

As per **claims 17,20** claims rejected for same reasons as claims 3,15,16,19.

### ***Response to Arguments***

5. Applicant's arguments, see Amendment, filed 8-6-2004, with respect to the rejection(s) of claim(s) 1-20 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Berger, Minami and Ponsgen.

6. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 703-305-3433. The examiner can normally be reached on M-F 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 703-305-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9315 for After Final communications.

AJ  
October 14, 2004

  
CURTIS KUNTZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600